

Notice of Allowability

Application No.

09/842,731

Examiner

Pedro J. Cuevas

Applicant(s)

TORII ET AL.

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to After Final amendment filed June 26, 2003.
2. ☒ The allowed claim(s) is/are 1-10 and 13-24.
3. ☒ The drawings filed on 27 April 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____. |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____. | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kerry S. Culpepper on July 31, 2003.

The application has been amended as follows:

please cancel claims 11 and 12, non-elected without traverse in Response filed on August 8, 2002;

on claim 16, line 13, after "poles" insert: --- and has an uncovered outer surface on an outside of said yoke housing to expose said entire outer surface of said groove-like reduced thickness portion to air --- ; and

on claim 18, line 13, after "poles" insert: --- and has an uncovered outer surface on an outside of said yoke housing to expose said entire outer surface of said groove-like reduced thickness portion to air --- .

Response to Arguments

2. Applicant's arguments filed on March 21, 2003 have been fully considered but they are not persuasive.
3. In response to applicant's argument that Arai fails to show groove-like reduced thickness portion exposed to air, it must be noted that Arai does describe pipes, passageways, and outlets

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that direct a cooling fluid (any substance at a lower temperature than the operating temperature of the motor) to the groove-like reduced thickness portion.

Allowable Subject Matter

4. Claims 1-10, and 13-24 are allowed.
5. The following is an examiner's statement of reasons for allowance.

Arai clearly teaches the construction of a micromotor with built-in cooling medium pipes comprising a yoke housing and an armature rotatably received within said yoke housing, said yoke housing comprising:

a plurality of primary magnetic poles, including permanent magnets, secured to an inner peripheral surface of said yoke housing for providing magnetic fields to said armature; and

a plurality of groove-like reduced thickness portions for increasing a magnetic resistance, said plurality of groove-like reduced thickness portions being integrally formed in said yoke housing, wherein:

a number of said plurality of groove-like reduced thickness portions is equal to a number of said plurality of primary magnetic poles; and

each said groove-like reduced thickness portion extends along a center line of a corresponding one of said plurality of primary magnetic poles, extending linearly in an axial direction of said yoke housing and covering an entire axial length of said corresponding one of said plurality of primary magnetic poles, and has said entire outer surface of said groove-like reduced thickness portion exposed to air by pipes, passageways, and outlets.

Hata et al. teach the construction of a magnet-retaining structure for a motor:

formed as a generally oblate cylinder that includes opposing generally parallel flat sections and opposing arcuate sections, each said arcuate section has one of said plurality of primary magnetic poles secured to an inner peripheral surface of each said arcuate section; and

configured such that a wall thickness of each said flat section is larger than a wall thickness of each said arcuate section, and gradually increases from a circumferential center of each said arcuate section toward each one of opposing circumferential ends of each said arcuate section for the purpose of permitting the simplification of the manufacture of component parts of the motor, and preventing the resilient retainer from dislocation and the magnets from displacement in the axial direction.

The prior art of record, taken alone or in combination, fails to teach the construction of a direct current motor as described on independent claims 1, 10, 16, and 18, wherein the groove-like reduced thickness portion has an uncovered outer surface on an outside of said yoke housing to expose said entire outer surface of said groove-like reduced thickness portion to air.

Dependent claims 2-9, 13-15, 17, and 19-24 are considered allowable by their respective dependence on allowed independent claims 1, 10, 16, and 18.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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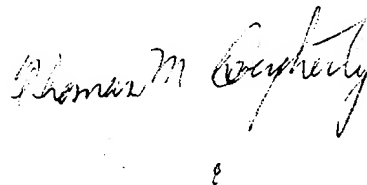
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas
July 31, 2003



Thomas M. Carpenter